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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LEE, ANDREW CHUNG CHEUNG

ART UNIT PAPER NUMBER

2664

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/751,848

Applicant(s)

PARK ET AL

Examiner

Andrew C. Lee

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-33 and 36-59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-33 and 36-59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 5 – 28, 32, 36 – 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig (U.S. Patent No. 6,697,352 B1) in view of Zhu (U.S. Patent No. 6,154,780) and Ashwood Smith (U.S. Patent No. 6,839,322 B1).

Regarding Claims 1-2 and 32-33, Ludwig discloses the limitation of adding a header from each communication protocol layer to a payload while transmitting the bit stream coded in the step of coding source data into the bit stream. (Fig 5, column 2, lines 10-33, column 17, lines 4-15), and is transmitted in an unacknowledged mode protocol (column 11, lines 55 – 56; column 14, lines 62 – 65), and header transmitting in an acknowledged or unacknowledged mode protocol (column 7, lines 43 – 48; column 12, lines 41-50, Fig. 6). Ludwig does not disclose expressly coding source data into the bit stream using a predetermined type of coding. However, Zhu discloses the limitation of coding source data into the bit stream using a predetermined type of coding (column 1, lines 33-34 — using H.263 representing a picture in an encoded video bitstream). He also teaches the process of encapsulation adding overhead to another protocol's packet (column 1, lines 17-23). Therefore, it would have been obvious

Art Unit: 2664

to modify Ludwig to include coding source data into the bit stream using a predetermined type of coding as that taught by Zhu in order to create a flexible bitstream that may be efficiently packetized for a variety of transport protocols. But, both Ludwig and Zhu do not disclose expressly transmitting the header separately from the bit stream transmitted in the step of adding a header from each communication protocol layer to a payload while transmitting the bit stream coded from a coding source data. However, Ashwood Smith discloses transmitting the header separately from the bit stream transmitted in the step of adding a header from each communication protocol layer to a payload while transmitting the bit stream coded from a coding source data (Figure 2a, column 3, lines 24 – 28). It would have been obvious to modify the combination of both Ludwig and Zhu to include transmitting the header separately from the bit stream transmitted in the step of adding a header from each communication protocol layer to a payload while transmitting the bit stream coded from a coding source data (Figure 2a, column 3, lines 24 – 28. such as that taught by Ashwood Smith in order to facilitate full optical routing of IP packets, which naturally vary widely in length, using optical routing equipment designed to accommodate fixed-length data packets. Regarding to Claims 3-4 and 34-35, Ludwig discloses the limitation of a bit stream having headers added in each communication protocol layer (column 2, lines 10-32) and is transmitted in an unacknowledged mode protocol (column 14, lines 62-65), and header transmitting in an acknowledged or unacknowledged mode protocol (column 7, lines 43-48, Fig. 6).

Regarding claims 5-6 and 36-37, Ludwig discloses the limitation of when the number of times of re-transmission of a bit stream transmitted in an acknowledged mode protocol is equal to or less than a predetermined number of times, the bit stream, which has been transmitted in an unacknowledged mode protocol, is transmitted in an acknowledged mode protocol (column 12, lines 41-50)

Regarding claims 7 – 9, and 38 – 40, Ludwig discloses the limitation of the header information in the bit stream be simultaneously transmitted in an acknowledged mode protocol with the bit stream (column 14, lines 66-67). He also teaches that the header information in the bit stream is simultaneously transmitted in an acknowledged mode protocol with the payload (column 15, lines 6-12). And the header information in the bit stream is simultaneously transmitted in the unacknowledged mode protocol with the bit stream (column 14, lines 62-64).

Regarding claims 10 and 41, Ludwig discloses that as a transmission error occurs, the bit stream, to which headers have been added by undergoing each communication protocol layer, is re-transmitted in an acknowledged or unacknowledged mode protocol (column 11, lines 48-57).

Regarding Claims 11-16 and 42-47, Ludwig teaches the acknowledged mode protocol being a transmission control protocol (TCP), and the unacknowledged mode protocol being a user datagram protocol (UDP). (Column 6, lines 24-26; lines 35-37; column 11, lines 48-57, Fig 9a and 9b).

Regarding Claims 17-24 and 48-55, Ludwig discloses the limitations of the acknowledged mode retransmitting Internet Protocol (IP) or Radio Link Protocol (RLP) packets. (Column 11, lines 50-57; column 13, lines 60-63).

Regarding Claims 25-26 and 56-57 Ludwig discloses the limitations of the headers are a payload header, a real time protocol (RTP) header, a user datagram protocol (UDP) or transmission control protocol (TCP) header, an Internet protocol (IP) header, a radio link protocol (RLP) header, and a layer 2 (L2) header, which are added after a bit stream is passed through each layer (Column 6, lines 15-26, Fig.5 and Fig.6)

Regarding claims 27-28 and 58-59, Ludwig discloses the payload includes multimedia data (column 6, lines 60-65; column 17, lines 18-19).

3. Claims 29, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig (U.S. Patent No. 6,697,352 B1) in view of Zhu (U.S. Patent No. 6,154,780).

Regarding Claim 29, Ludwig discloses the limitations of adding the header of each communication protocol layer to a payload while transmitting the bit stream encoded by the encoder to each communication protocol layer (Fig. 5, column 2, lines 10 – 32); and a packet processing unit for transmitting the bit stream processed by the protocol processing unit in an unacknowledged mode protocol (column 6, lines 25 – 26; lines 34 – 37) and transmitting the header information in an unacknowledged or acknowledged mode protocol (Fig 5,

Art Unit: 2664

column 6, lines 26 – 27; column 12, lines 33 – 34). Ludwig does not disclose expressly the limitations of an encoder for encoding source data into a bit stream. However, Zhu discloses the limitations of an encoder for encoding source data into a bit stream (column 6, lines 10-14, Fig 5; lines 5-9). Therefore, it would have been obvious to modify Ludwig to include an encoder for encoding source data into a bit stream such as that taught by Zhu in order to create a flexible bitstream that may be efficiently packetized for a variety of transport protocols.

Regarding to Claims 30 and 31, Ludwig discloses the limitation of the system for relaying and receiving a bit stream in a communication network (Fig 6), the system comprising an extractor for separately extracting payloads and header information, which corresponds to the header of each layer (Fig. 8, Fig. 5, column 2, lines 33 – 36; column 11, lines 5 – 20), while transmitting a bit stream received in a separate transmission protocol in the communication network to each layer (column 10, lines 33 – 36; lines 47 – 55); an error determination processing unit for determining whether the header information extracted by the extractor has error (column 16, lines 5 – 10); a bit stream re-organizing unit for re-organizing a bit stream using the header information extracted by the extractor (column 13, lines 5 – 16); and a decoder for decoding a bit stream re-organized by the bit stream re-organizing unit (column 13, lines 25 – 29). He also teaches the system having the error determination processing unit also requests re-transmission if it is determined that the header information has error (column 15, lines 15 – 19).

Response to Arguments

Applicant's arguments with respect to 1 – 2, 5 – 33, 36 – 59 have been considered but not persuasive. Regarding claims 1, 2, 32, 33, Applicant argues the reference Ludwig does not mention specifically transmitting payload and header information in either acknowledged or unacknowledged modes, as recited in the claims. Ludwig discloses the TCP packets are transmitted only in numbered channels, and UDP packets are transmitted only unnumbered channels. Examiner contends the reference Ludwig discloses implicitly transmitting payload and header information in acknowledged or unacknowledged modes (see column 2, lines 10 – 20; column 7, lines 46 – 50; column 11, lines 51 – 56). According to applicant's claims 11, 12, 13, 14, 15, 16, 42, 43, 44, 45, 46, 47, acknowledged mode protocol is a transmission control protocol (TCP), and the unacknowledged mode protocol is a user datagram protocol (UDP). The limitation cited by the reference Ludwig is valid. Regarding claims 29, applicant argues the reference Ludwig or Zhu of transmitting the bit stream in an unacknowledged mode protocol, and transmitting the header information in an unacknowledged or acknowledged mode protocol. Examiner contends the reference Ludwig discloses implicitly the reference Ludwig of transmitting the bit stream in an unacknowledged mode protocol, and transmitting the header information in an unacknowledged or acknowledged mode protocol (see column 2, lines 10 – 20; column 7, lines 46 – 50; column 11, lines 51 – 56). Regarding claim 30, applicant argues the reference Ludwig does not disclose the limitation of an extractor for separately

Art Unit: 2664

extracting payloads and header information which corresponds to the header of each layer, while transmitting a bit stream received in a separate transmission protocol in the communication network to each layer. Examiner contends the reference Ludwig discloses an extractor for separately extracting payloads and header information which corresponds to the header of each layer, while transmitting a bit stream received in a separate transmission protocol in the communication network to each layer (Fig. 5, column 2, lines 33 – 36; column 11, lines 5 – 20).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is

Art Unit: 2664

(571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ACL

Sep 30, 2005


Ajit Patel
Primary Examiner